



WASHINGTON, DC

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February 23, 2018

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: **Wireless Internet Service Providers Association
GN Docket No. 17-258
Notice of Oral Ex Parte Presentations**

Dear Ms. Dortch:

On February 22, 2018, Chris Daniels, President of the Broadband Wireless Access Division of Telrad Networks Ltd. ("Telrad"), and undersigned counsel to Telrad, met separately with (1) Rachael Bender, legal advisor to Chairman Ajit Pai, (2) Commissioner Michael O'Rielly and his legal advisor Erin McGrath, (3) Commissioner Mignon Clyburn and her legal advisor Louis Peraertz, (4) Umair Javed, legal advisor to Commissioner Jessica Rosenworcel, and (5) Will Adams, legal advisor to Commissioner Brendan Carr. The purpose of the meeting was to discuss issues related to the above-referenced proceeding.¹

In each meeting, Mr. Daniels discussed the attached presentation, which highlights the features of Telrad's technology and the vertical markets it serves. Mr. Daniels explained how the rules adopted in the 2015 *CBRS Report and Order* had provided the impetus for Telrad to make significant investments in the US market, in the form of technology and equipment for fixed wireless broadband deployments in both unserved and underserved areas, smart cities, and industrial and utility uses.

The Telrad representatives discussed how the combination of the 2015 rules and the innovation of software-defined technology for fixed deployment were "game-changers." Mr. Daniels emphasized that software-defined LTE-based equipment was being deployed in the 3650-3700 MHz band and could be quickly software-upgraded to operate in the 3550-3700 MHz

¹ See *Promoting Investment in the 3550-3700 MHz Band; Petitions for Rulemaking Regarding the Citizens Broadband Radio Service*, GN Docket No. 17-258, RM-11788 (Terminated) and RM-11789 (Terminated), FCC 17-134 (Oct. 24, 2017) ("*CBRS Report and Order*").



CBRS band without the need for any additional hardware, tower climbing, or new customer premise equipment, with better performance. The effect of these benefits lowers capital expenses, increases efficiency, and increases deployment, for the benefit of consumers that could obtain expeditious access to new, improved, and competitive broadband and other services.

Mr. Daniels stated that the intervening time since the rules were adopted in 2015 together with the threat posed by potential rule changes has created a substantial reduction in sales and deployment of equipment in the Part 90 3650-3700 MHz band. Mr. Daniels expressed optimism that General Authorized Access use of the band would occur soon, triggering a new wave of equipment sales and deployment and leading to better and more affordable broadband for rural Americans.

With respect to the rules for Priority Access Licenses (“PALs”), the Telrad representatives urged the Commission to preserve census tract licensing in rural areas. Licensing by small areas would be critical for many fixed wireless broadband providers that Telrad serves; without that significant market, Telrad would need to re-evaluate its investment in CBRS-related technology and the US market in general. We stressed the need for the Commission to act quickly in this proceeding in order to provide the marketplace with greater certainty. In particular, we made clear that the Commission should conclude this proceeding even if auctions for PALs would not occur in the near term.

This letter is being filed electronically via the Electronic Comment Filing System in the above-captioned proceeding.

Respectfully submitted,

/s/ Stephen E. Coran
Stephen E. Coran

Enclosure

cc: Commissioner Migno Clyburn
Commissioner Michael O’Rielly
Louis Peraertz
Erin McGrath
Rachael Bender
Umair Javed
Will Adams



Company overview

Presented by:

Chris Daniels

President, BWA Division

Who is Telrad?

- Founded in 1951
- Global provider of telecommunications solutions
- Publicly traded (TASE:TLRD)
- Group of four companies
- Over 400 employees worldwide



Industry Leading Innovation in Fixed BWA



Telrad

Get more from wireless.

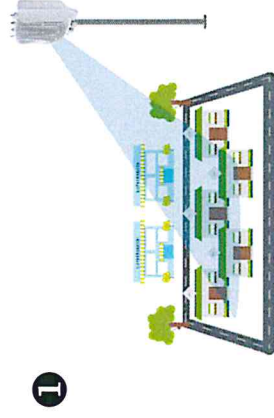


- Disrupted the LTE market in 2015
 - ▶ First fixed-focused, standards-based TDD LTE solution
 - ▶ First affordable LTE solution for service providers of all sizes
- Innovation with a purpose
 - ▶ Optimal solutions for the delivery of broadband in challenging environments
 - ▶ Purpose-built technology for operators and private networks

Telrad

Telrad Business Model - Deployment Flexibility

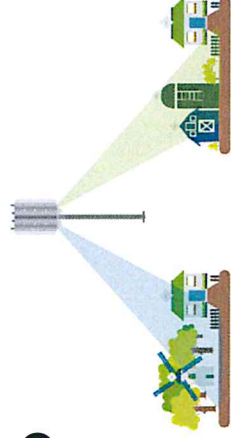
1 Radio, Multiple Deployment Options = Best ROI



1

Low Density Deployment

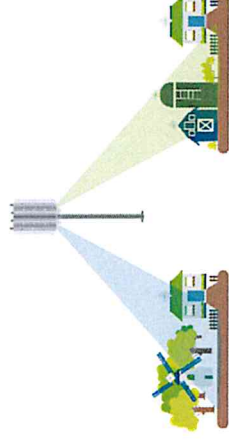
2x2 – Single Sector
100 Mbps Single Sector Capacity
(20 MHz of Spectrum)
5.5 bits/Hz | 1 eNodeB



2

Lowest CapEx Coverage

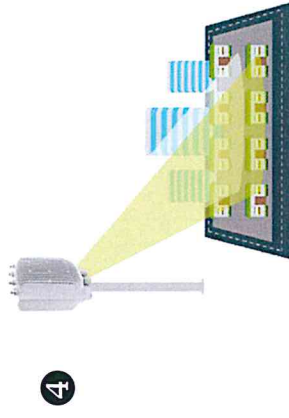
2x2 – Split Mode (180 degrees opposed)
100 Mbps shared capacity
(20 MHz of Spectrum)
5.5bits/Hz | 1 eNodeB



3

Flexible use of available spectrum

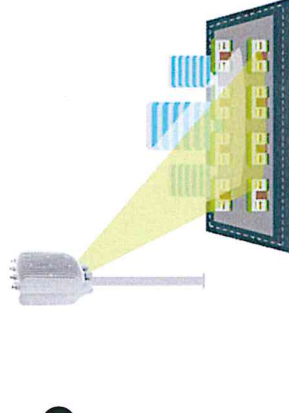
2x2 – Dual Sectors/Dual Carrier
2 x 50 Mbps Sectors
(20 MHz of Spectrum)
5.5bits/Hz | 1 eNodeB



4

Max NLOS Penetration

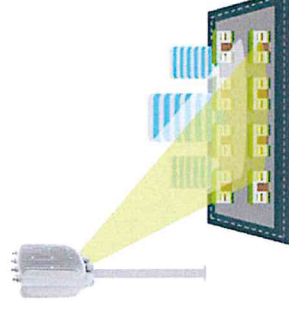
4x4 TM4 100Mbps
100 Mbps Single Sector
(20 MHz of Spectrum)
5.5bits/Hz | 1 eNodeB



5

Max Peak Rate

Single sector-200 Mbps
Carrier Aggregation (non contiguous channels)
20 + 20 MHz = **40 MHz**
5.5bits/Hz | 1 eNodeB



6

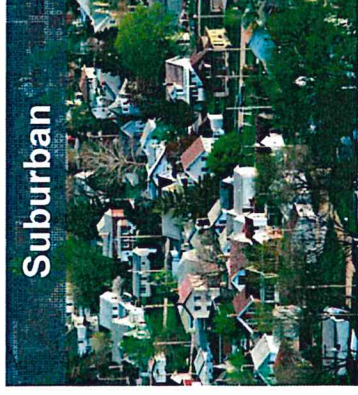
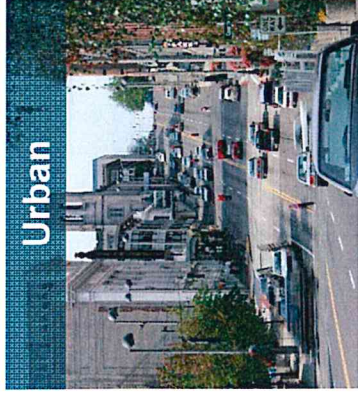
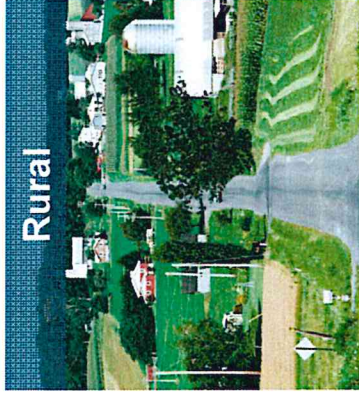
Max spectral efficiency

4x4 – Single Sector
MU-MIMO
Single sector **200Mbps**
(20 MHz of Spectrum)
10 bits/Hz | 1 eNodeB

Increase Subscriber Capacity or Performance

Industry Standard Solutions for Diverse Markets

Fixed Broadband Access



Vertical Applications

